IDAHO DEPARTMENT OF FISH AND GAME

ANNUAL REPORT

McCALL HATCHERY

1992

Prepared by:

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INTRODUCTION

McCall Hatchery is located approximately one quarter mile down the North Fork Payette River from Payette Lake and within the city limits of McCall. McCall Hatchery was built in 1979 by the U.S. Army Corps of Engineers under the Lower Snake River Compensation Plan. The anadromous funding is provided by the U.S. Fish and Wildlife Service and is staffed and operated by the Idaho Department of Fish and Game (IDFG). The major objective of the hatchery is to produce one million summer chinook salmon smolts.

McCall Hatchery is also responsible for a resident fisheries program. The major objectives are: redistribution of approximately 80,000 catchable rainbow trout, production of westslope cutthroat and rainbow trout fry, operating a fish trap at Fish Lake for the collection of westslope cutthroat trout eggs, and stocking of high mountain lakes in IDFG Regions 1, 2, and 3. Assistance is also provided to McCall Subregion 3 Fisheries Management on various projects.

Payette Lake is the water supply for McCall Hatchery. There is a surface intake at the Lardo Dam and also a subsurface intake about one-quarter mile out into the lake and 50 feet down. Limited temperature control is available from mixing water from the two intakes. A 2-foot diameter constriction in the 3-foot diameter main line limits maximum flow to 20 cubic feet per second.

Incubation consists of 26 eight-tray Heath style incubators stacks. Additional incubators could be plumbed into several of the early rearing vats if additional space is needed. There are 14 early rearing vats 40 feet long and 4 feet wide. Outside rearing consists of two concrete ponds 196 ft x 40.5 ft x 3 ft and one collection basin 101 ft x 15 ft straddling the base of the other two ponds.

Fish Lake is located approximately seven miles west of McCall. It is on Little Creek, a tributary to Little Salmon River. The facility is equipped with two 6 ft x 22 ft holding ponds, a 4 ft x 12 ft trap, a fish ladder, and velocity barrier. This trapping and spawning program begins in early April and runs into mid-May.

Funding for the resident fisheries program at McCall Hatchery is provided by IDFG from license sales revenue for the period of April 1 to September 30 annually.

FISH PRODUCTION

McCall Hatchery produced westslope cutthroat trout, Hayspur rainbow, and Mt. Lassen rainbow trout fry in 1992. These fry are used mainly to stock high mountain lakes and a few large reservoirs. The majority of these fish are distributed within the six-month funding period.

The rainbow reared in 1992 were received as green eggs from IDFG's Hayspur Hatchery and eyed eggs from Mt. Lassen Trout Farm, Red Bluff, California (Table 1). All of these fish were stocked into high mountain lakes. Size is critical to the efficiency of the high mountain lake stocking program (desirable range = 800 to 1,200 fish per pound), so shipments of rainbow eggs are scheduled to match the cutthroat eye-up of early June. This way, all the fish are ready to be planted at one time.

The eggs received from Hayspur Hatchery were shipped green to slow development by incubating in the colder water at McCall Hatchery. The resulting fry were still a bit large, so they were used on the early high mountain lake

flights and on later flights for lakes with 500 or less fish requested. The Mt. Lassen rainbow were used for the other flights.

The westslope cutthroat are obtained from the naturalized broodstock spawntaking project at Fish Lake. These trout are used to fill requests at Deadwood Reservoir, Goose Lake, the Payette Lake net pens, and high mountain lakes. All of these fish are planted as fry except for the net pen fish. These are transferred to IDFG's Mackay Hatchery to overwinter, then transferred back the following spring.

This was the third year of net pen production in Payette Lake. This project is operated by the Payette Lake Net Pen Association with technical assistance provided by McCall Hatchery.

Two nets, 30 feet deep, were used this year. In past years, the nets were 17 feet deep. This reduced the heavy mortality suffered in prior years due to water temperatures in excess of 74°F and low dissolved oxygen levels.

Stocking rates were also reduced, 8,000 westslope cutthroat in one net and 6,000 westslope cutthroat plus 2,400 Pennask rainbow in the second net. Both species initially averaged 6 inches in length. At the time of release, mid-October, the fish averaged 11 inches in length.

The deeper nets and reduced densities worked well to increase survival. Mortality was reduced from 10% in 1991 to less than 2% in 1992. Vandalism and predation from squawfish and otters are still a problem. This program is funded mainly through the Payette Lake Net Pen Association.

Bioproducts Bio-Diet Starter and Grower diets were used exclusively this year for the rainbow and cutthroat. A total of 1,144 pounds of food was fed to produce 1,184 pounds of fish for a conversion of 0.97 (Table 1).

FISH HEALTH

Pathological inspections were done on the Fish Lake broodstock and the fry stocked back into Fish Lake. The only pathogen found in the broodstock was Renibacterium salmoninarum or Bacterial Kidney Disease (BKD). Sixty fish, in groups of three each, were sampled using the ELISA method. All 20 groups tested positive for BKD. Of these 20 pools, 15 were low and 5 were of moderate intensity. This was the first year using the ELISA assay and the first year that BKD was detected in the broodstock. The FAT test was not performed for a comparison. No pathogens were detected in fry stocked back into Fish Lake.

The Pennask rainbow in Little Payette Lake, that are being considered for a naturalized broodstock, were also inspected for pathogens. Eight fish from the spawning population in Lake Fork Creek were sampled. The only pathogen found was BKD. It was present in 50% of the samples at low intensity using the ELISA assay and 0% using FAT. Seven fish from the lake were also sampled. The only pathogen found was BKD, with 100% of the samples positive at low intensity using ELISA and 0% with FAT.

FISH STOCKED AND TRANSFERRED

McCall Hatchery planted approximately 30 different lakes and rivers with catchable rainbow trout. These fish were produced at American Falls Hatchery and Nampa Hatchery and transferred to McCall Hatchery for redistribution. The total

number redistributed from McCall Hatchery decreased this year because a few systems were changed to manage for wild trout production.

A total of 177 high mountain lakes were planted this year. Of these, 140 were flown in nine flights at a total cost of $3,792, or $27.08 per lake. The IDFG volunteer program accounted for 30 of the 37 backpack plants. This saved one flight which would be worth approximately $400.

All high mountain lake requests were met, except for those lakes specified for golden trout, as none were available. Two flights were made into Region 7 in addition to the normal flights to Regions 1, 2, and 3.

The only fish transferred out of McCall were 76,000 westslope cutthroat (Table 2). These went to Mackay Hatchery for high mountain lakes and for the 1993 Payette Lake net pens.

SPAWNTARING OPERATION

The Fish Lake trap was operated from April 1 to May 18. A total of 1,135 westslope cutthroat trout were trapped; 446 males and 689 females. Spawning operations began April 6 and continued bi-weekly through May 18. Of the 689 females, 32 were culled due to exhibition of rainbow characteristics or deformities. The 646 westslope cutthroat females spawned produced a total green egg take of 615,000 (Table 3).

The westslope cutthroat trout stocked back into Fish Lake for future broodatock have been fin-clipped since the 1986 plant. Of the 1,355 returning adults in 1991, only 62 (4.6%) fin clips returned to the trap, and 67 fin clips of the 1,135 fish (5.9%) in 1992. This may indicate much heavier recruitment to the population from natural production than from hatchery plants or the fins are regenerating. This year, the creek was low enough that large numbers of adults were seen spawning naturally below the weir. An estimate of actual number of spawning pairs was not made.

Table 1. Total production at McCall Hatchery, 1992.

Species	Eyed eggs received	Fish produced	Pounds produced	Cost per pound	Cost per fish
West slope Cutthroat	562,000	444,000	1,119	39.53	0.098
Mt. Lassen Rainbow	23,000	20,900	15	39.52	0.098
Hayspur Rainbow	19,000	11,000	50	39.52	0.098
Total	604,000	475,900	1,184	39.52	0.098

Table 2. Fish Distribution.

Species	Number transferred in	Number transferred out	Number planted out
Westslope Cutthroat		76,000	368,000
Mt. Lassen Rainbow			20,850
Hayspur Rainbow			11,000
Grayling	19,200		8,900
Rb x Ct Hybrid	3,700		3,000
Catchable Rainbow	80,900		78,600
Total	103,800	76,000	490,350

Table 3. Result of Westslope Cutthroat Spawntake, Fish Lake, McCall Hatchery, 1992.

Species	Females spawned	Number Green eggs	Percent eye-up	Number eyed	Average fecundity
Westslope Cutthroat	646	615,000	91.4	562,000	952

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